



Montana Fish, Wildlife & Parks

1420 East Sixth Avenue
P.O. Box 200701
Helena, MT 59620-0701
March 4, 1997

Governor's Office, Attn: Julie Lapeyre
Environmental Quality Council
Dept. of Environmental Quality, Metcalf Building, POB 200901,
Helena, MT 59620-0901
Montana Fish, Wildlife & Parks
Fisheries Division
Endangered Species Coordinator - Arnold Dood
Bozeman Offices
Montana Historical Society, State Historic Preservation Office, POB
201202, Helena, MT 59620-1202
Montana State Library, 1515 East Sixth Avenue, POB 201800, Helena,
MT 59620-1800
MT Environmental Information Center, POB 1184, Helena, MT 59624
MT Audubon Council, POB 595, Helena, MT 59624
Park County Conservation District
Environmental Protection Agency, Federal Building, Helena, MT 59601
Army Corps of Engineers, 301 South Park Avenue, Helena, MT 59601
U.S. Fish and Wildlife Service, 100 North Park Avenue, Helena, Mt
59601
Yellowstone Spring Creek Foundation, c/o Dud Lutton, 514 Quaw
Boulevard, Belegrade, MT 59714

Dear Ladies and Gentlemen:

The enclosed Environmental Assessment (EA) is submitted for your consideration. It was prepared for the proposed Future Fisheries Improvement project on the Yellowstone River. This project includes re-shaping an eroding bank, protecting the slope base with rock "vanes and root wads, revegetating the disturbed area and protecting the riparian.

Questions and comments will be accepted until 5 p.m., April 4, 1997. If you have questions, feel free to contact me at (406) 444-2432. All comments should be sent to the undersigned.

Thank you for your interest.

Sincerely,

Bruce J. Rehwinkel
Habitat Protection
Fisheries Division

Park

ENVIRONMENTAL ASSESSMENT
IMPLEMENTATION OF A FUTURE FISHERIES PROJECT
ON THE YELLOWSTONE RIVER

Prepared by
Montana Fish, Wildlife & Parks
March 4, 1997

GENERAL PURPOSE:

The 1995 Montana Legislature enacted statute 87-1-272 & 273, MCA which directs the Montana Department of Fish, Wildlife & Parks (FWP) to restore and improve degraded wild fisheries. The legislation established a one-time funding account to ensure that this function would be accomplished. The Yellowstone River bank protection project described herein was received in 1997.

BACKGROUND:

The Yellowstone River is one of the last free-flowing rivers in the lower 48 states. As such, the channel forming processes and the associated natural hydrograph can result in change that challenges adjacent landownership.

During 1996, a high snow-pack resulted in a 100+ year run-off event. Natural stream channels typically tolerate these events with minimal damage. However when man limits a river's ability to gain access to its floodplain (as in the case of the Yellowstone River), unnatural channel changes can occur.

The eroding river bank on the Lakovitch property was the source of the material that resulted in the channel aggradation where the channel avulsed in June, 1996. The extensive bank erosion on the Lakovitch property was probably the result of a restricted floodplain just above this site. In the past, portions of the floodplain were eliminated through the construction of dikes. This caused flood flows to be confined to a smaller portion of the channel resulting in higher velocities and the erosion of the river bank.

The proposed project and possibly others in the future are intended to manage the Yellowstone River as a single system. This type of a management approach is intended to maintain a natural river through coordination of channel and floodplain manipulations.

I. DESCRIPTION OF THE PROPOSED ACTION:

Currently, the eroding bank is 1,500 feet long and averages 30 feet in height. Corrective measures will include re-shaping the cross-section of this bank, construction of a 30 foot wide primary terrace, installation of root wads for bank protection, placement of rock "vanes" to shift the water velocity to the mid-channel area and re-vegetation of all disturbed areas.

The bank re-shaping will be accomplished through sloping the bank material down and pushing the river cobbles and gravels up to create the terrace. Material excavated from the river channel will come directly from the area immediately in front of the bank restoration work. Natural revetments will include root wads (with 20 foot long trunks), willow bundles, transplanted trees and log headers. The remaining area will be covered by sods or seeding. As the root wads eventually decompose, the bank stability will be provided by willows and other woody vegetation.

In the middle of this restoration work, rock "vanes" will be installed in between the root wad placements. The rock "vanes" are installed in an upstream position (about 30 degrees) and are intended to function at higher stream flows. The angle of streamflow will be at 90 degrees from the trailing edge of the "vane". The net result is to turn the main current of the stream toward the mid-channel area. This will allow the banks to further revegetate.

Lastly, the re-shaped river bank will be allowed to recover without additional complications caused by livestock grazing. The area around the work will either be fenced or the pasture will be excluded from grazing during recovery.

A. Location of Project

The bank protection project is located within Township 3 South, Range 9 East, Section 35 of Park County. The 1,500 feet of bank erosion control work will be done on the Charles Lakovitch property.

B. Project Benefits

The primary species to benefit from this work will be the rainbow, cutthroat and brown trout.

The main benefit to eliminating erosion along this portion of the Yellowstone is to stop a major source of sediment that resulted in a major channel evulsion during 1996 and which could cause a similar problem in the future. The channel change eliminated a spring creek that was a major source of rainbow and cutthroat recruitment to this reach of the river.

II. IMPACTS TO THE PROPOSED ACTION

Please review the attached checklist. The proposed project will reduce sediment contribution and restore channel stability to a critical reach of the Yellowstone River.

A. Impacts to the Physical Environment

1. Terrestrial & Aquatic Life and Habitats

Habitat for riparian dependent wildlife will be restored through the efforts of this project. The cover component of this habitat - once restored - will result in a more attractive and productive wildlife area.

Fishery benefits of this project include the restoration and enhancement of 1,500 feet of high quality salmonid habitat. The channel stability will be increased, sediment content of the gravel will be reduced, stream cover and shading should be improved.

2. Water quality, quantity and distribution

Regardless of the time of construction, nearly all of this work will have to be accomplished under wet conditions. Work done under wet conditions will cause short-term increases in turbidity. A short-term exemption from water quality standards will be necessary. Whatever conditions the Water Quality Division places on the permit, will be followed.

In the long-term, measures to stabilize and minimize erosion will improve water quality. Streamflow will not be changed by this project.

3. Geology and soil quality, turbidity and moisture

No effects on the areas geology are expected to occur above the active high-water mark. Once the vegetation is established, it should act as a "filter mat" and help hold the soil on upland areas.

The effects of this project on the geology below the high-water mark are to curtail sediment contribution from the upland locations into the riverine situation. This reduction in sediment contribution should allow the river to use its energy to transport sediment that already exists within the channel. Ultimately, the channel should experience a reduction of fine sediment - assuming nothing else in the system changes.

4. Vegetation cover, quantity and quality

This project will eventually restore the riparian plant community to a natural condition within this 1,500 foot reach. The process of vegetative recovery will require many years, but should progress in a predictable fashion as long as the bank protection does not fail or grazing practices aren't changed.

5. Aesthetics

The aesthetics of the area are presently quite good, except for this single 1,500 foot eroding streambank. The general appearance of the stream corridor will be much improved once the riparian community recovers.

9. Historical and archaeological sites

The proposed activity will be confined to those areas of the stream channel that have been disturbed by fluvial process of the stream and/or the process of grazing livestock.

Since the entire area is located on privately owned property and the changes occurred as a result of natural process, this action does not appear to meet the definition of an "undertaking" as described in the state antiquities act.

This work will require an Army Corps of Engineers "404" permit. The State Historic Preservation Office (SHPO) can require a site survey before the issuance of the "404" permit. This can be required under the Federal Historic Preservation regulations. Whatever SHPO requires, project sponsors will comply at FWP expense.

B. Impacts to the Human Environment

7. Access to & quality of recreational activities

The public has excellent access to the Yellowstone River through a system of state operated Fishing Access Sites. This project will not impact the public access. This project will maintain the high quality fishery resource that is accessed through the existing access system.

III. DISCUSSION AND EVALUATION OF REASONABLE ALTERNATIVES

A. The "No Action" Alternative

If this project is not completed, the following consequences are likely to result:

- a single site will continue to contribute massive quantities of sediment to a fragile system,
- the riparian plant community will not recover for the lack of needed grading, planting and protection,
- angling in this reach of the Yellowstone River will decline to a point well below documented levels as a result of continued loss of habitat,
- erosion of the streambank will continue to worsen, and
- sediment contribution and channel change problems will continue to plague this reach of the Yellowstone.

B. The Proposed Alternative

The proposed project will result in the following:

- the contribution of massive amounts of sediment from one site will be curtailed,
- the riparian plant community will recover from its present degraded condition,
- angling in this reach of the Yellowstone River will continue at the present highly productive levels,
- erosion of the streambank will cease,
- sediment contribution and resulting channel change problems will mainly be eliminated from this reach of the Yellowstone River.

IV. ENVIRONMENTAL ASSESSMENT CONCLUSIONS SECTION

A. Is an EIS required? No

This review has clearly demonstrated that the impacts associated with this project are not significant. The net result of the proposed action is a return to a more natural situation.

B. Describe the level of public involvement.

The project was reviewed and supported by the public review panel of the Future Fisheries Improvement program at the July meeting. Additionally, copies of this proposal were sent to all Fish, Wildlife and Parks Commissioners for review.

This Environmental Assessment is being distributed to all individuals and groups listed on the cover letter.

Lastly, the Yellowstone River bank protection project will likely be approved by the Commission at their April meeting.

C. Duration of comment period?

Public comment will be accepted through 5 p.m. on April 4, 1997.

D. Name, Title, address and phone number of the person responsible for preparing the Environmental Assessment:

Bruce J. Rehwinkel
Habitat Bureau
Fisheries Division
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P.O. Box 200701
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(406) 444-2432

DEPARTMENT OF FISH, WILDLIFE AND PARKS
1420 E 6th Ave, PO BOX 200701, Helena, MT 59620-0701
(406) 444-2535

ENVIRONMENTAL ASSESSMENT

Project Title Yellowstone River Bank Stabilization Project
Division/Bureau Fisheries Division, Future Fisheries Improvement
Description of Project A Future Fisheries Improvement project is planned for the main channel of the Yellowstone River, south of Livingston. This project includes re-shaping an eroding bank, protecting the slope base with root wads and rock "vanes", revegetating the disturbed area with sod and willow plantings, and initiating some form of riparian protection.

POTENTIAL IMPACT ON PHYSICAL ENVIRONMENT

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Terrestrial & aquatic life and habitats			X			X
2. Water quality, quantity & distribution			X			X
3. Geology & soil quality, stability & moisture			X			X
4. Vegetation cover, quantity & quality			X			X
5. Aesthetics			X			X
6. Air quality				X		
7. Unique, endangered, fragile, or limited environmental resources				X		
8. Demands on environmental resources of land, water, air & energy				X		
9. Historical & archaeological sites				X		X

POTENTIAL IMPACTS ON HUMAN ENVIRONMENT

	MAJOR	MODERATE	MINOR	NONE	UNKNOWN	COMMENTS ON ATTACHED PAGES
1. Social structures & mores				X		
2. Cultural uniqueness & diversity				X		
3. Local & state tax base & tax revenue				X		
4. Agricultural or industrial production				X		
5. Human health				X		
6. Quantity & distribution of community & personal income				X		
7. Access to & quality of recreational and wilderness activities			X			X
8. Quantity & distribution of employment				X		
9. Distribution & density of population & housing				X		
10. Demands for government services				X		
11. Industrial & commercial activity				X		
12. Demands for energy				X		
13. Locally adopted environmental plans & goals				X		
14. Transportation networks & traffic flows				X		

Other groups or agencies contacted or which may have overlapping jurisdiction Park County Conservation District, Army Corps of Engineers, Environmental Protection Agency

Individuals or groups contributing to this EA David Rosgen, Bob Delk, Buddy Drake and Associates and adjacent landowners

Recommendation concerning preparation of EIS No EIS required

EA prepared by : Bruce Rehwinkel

Date: March 4, 1997